

**DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

A00003SE  
Revision 8  
(February 26, 2002)  
LANCAIR  
LC40-550FG  
Original Issue Date:  
August 3, 1997

**TYPE CERTIFICATE DATA SHEET A00003SE**

This data sheet, which is part of Type Certificate No. A00003SE, prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder:                   The Lancair Company  
  22550 Nelson Road  
  Bend, Oregon 97701

**I - Model LC40-550FG (Utility Category), Approved September 18, 1998**

Engine:                                    Teledyne Continental Model IO-550-N, Engine Type Certificate E3SO.

Fuel:                                       100 (green) or 100LL (blue) grade aviation fuel.

Engine Limits:                        Maximum takeoff power and maximum continuous power = 310 horsepower at 2700 rpm.  
  See Engine Type Certificate Data Sheet E3SO for additional limitations.

Propeller:                               Hartzell Model PHC-J3YF-1RF/F7691D-1, Propeller Type Certificate P36EA  
  Hartzell Spinner Assembly, Part No. C-6446

Propeller Limits:                    Minimum diameter = 76 inches  
  Maximum diameter = 77 inches  
  Low Pitch =  $13.5^\circ \pm 0.5^\circ$   
  High Pitch =  $35^\circ \pm 1.0^\circ$   
  Pitch limits measured at 30 inches radial distance.  
  Do not exceed 20 inches manifold pressure with propeller RPM below 2200.  
  See Propeller Type Certificate Data Sheet P36EA for additional limits.

Airspeed Limits:                       V<sub>O</sub> (3400 lbs)                               149 KCAS (148 KIAS)  
  V<sub>O</sub> (2500 lbs)                               128 KCAS (127 KIAS)  
  V<sub>FE</sub> (Fully Extended)                       120 KCAS (119 KIAS)  
  V<sub>FE</sub> (Intermediate Setting)                   130 KCAS (129 KIAS)  
  V<sub>NO</sub>   180 KCAS (178 KIAS)  
  V<sub>NE</sub>   235 KCAS (232 KIAS)  
  Note: V<sub>NO</sub> and V<sub>NE</sub> decrease by 5 KIAS for each 1000 feet above 12,000 feet (pressure altitude).

C.G. Range:                            Straight line variation between points.

Aft Limits                               110 inches aft of datum from 2500 lbs to 3400 lbs.

Forward Limits                        103 inches aft of datum from 2240 lbs to 2500 lbs then to 107 inches aft of datum at 3400 lbs.

Maximum zero fuel weight       103 inches aft of datum at 2725 lbs to 110 inches at 3228 lbs.

Minimum flying weight           103 inches aft of datum at 2240 lbs to 110 inches at 2500 lbs.

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Datum:	The forward edge of the wing saddle is located 97.05 inches aft of the reference datum. Refer to the latest Federal Aviation Administration (FAA) approved revision of “ <i>Airplane Maintenance Manual</i> ,” Document No. RA050000, for detailed instructions.			
Leveling Means:	Plumb target and plumb line hanger are located in the rear seat area.			
Weight limits:	Maximum ramp and takeoff = 3400 lbs. Maximum landing weight = 3230 lbs. Maximum empty weight = 2580 lbs. Maximum zero fuel weight = 2725 lbs at 103 inches varying linearly to 3228 lbs at 110 inches. Minimum flying weight = 2240 lbs at 103 inches varying linearly to 2500 lbs at 110 inches.			
Minimum Crew:	1 Pilot.			
No. of Seats:	4 seats total:	2 located at 110 inches aft of datum. 2 located at 141.4 inches aft of datum.		
Maximum Baggage:	20 pounds allowed on the hat shelf. 120 pounds total.			
Fuel Capacity:	106 gallons total; 98 gallons useable. (Two 53 gallon tanks in wings at 118.0 inches aft of datum).			
Oil Type and Capacity:	8 qts drainable. See Engine Type Certificate Data Sheet E3SO.			
Maximum Operating Altitude:	14,000 feet without FAA approved oxygen system installed. 18,000 feet with FAA approved oxygen system installed.			
Control Surface Movements:	Wing flaps:	Cruise $0^{\circ} \pm 1^{\circ}$	Take off $12^{\circ} \pm 1^{\circ}$	Landing $40^{\circ} \pm 1^{\circ}$
	Ailerons:	Up $22^{\circ} \pm 1^{\circ}$	Down $18^{\circ} \pm 1^{\circ}$	
	Aileron Trim Tab:	Up $22.4^{\circ} \pm 1^{\circ}$	Down $19.6^{\circ} \pm 1^{\circ}$	
	Aileron Servo Tab:	Up $20^{\circ} \pm 1^{\circ}$	Down $12^{\circ} \pm 1^{\circ}$	
	Elevator:	Up $13^{\circ} +0^{\circ}-0.5^{\circ}$	Down $12^{\circ} \pm 1^{\circ}$	
	Elevator trim tab:	Up $21^{\circ} \pm 1^{\circ}$	Down $30^{\circ} \pm 1^{\circ}$	
	Rudder:	Right $17^{\circ} \pm 1^{\circ}$	Left $17^{\circ} \pm 1^{\circ}$	Left, rudder limiter $11.5^{\circ} \pm 0.5^{\circ}$
Additional Limitations:	Airframe life limit:	12,000 flight hours (see NOTE 5).		
	Kinds of operations:	Day and Night, Visual Flight Rules (VFR) and Instrument Flight Rules (IFR).		
Required Maintenance:	The airplane must be maintained in accordance with the instructions for continued airworthiness contained in the latest FAA approved revision to Chapter 4 of “ <i>Airplane Maintenance Manual</i> ,” Document No. RA050000.			
Required Equipment:	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for airworthiness certification.  In addition to the above required equipment, the following equipment is also required: The latest FAA Approved Revision of “ <i>Pilots Operating Handbook and FAA Approved Flight Manual</i> ,” Document No. RA050001.  The required equipment for various types of operations is specified in Appendix A to Section 6 of the latest FAA Approved Revision of Document No. RA050001.			
Design Data:	The airplane shall be manufactured in accordance with the latest FAA approved revision of “ <i>Master Drawing List</i> ”, Document No. RA011002, or other FAA approved data.			
Serial Numbers Eligible:	40004 and on			

Certification Basis: Part 23 of the Federal Aviation Regulations (FAR) effective February 1, 1965, as amended by 23-1 through 23-46. FAR 36 as amended through 36-20. Application for type certificate, dated June 14, 1995.

Equivalent Level of Safety (ELOS) Findings: Stall and spin requirements of FAR's 23.201, 23.203, and 23.221 in accordance with ELOS No. ACE-98-1 as detailed in the FAA memo dated September 3, 1998 (FAA memo reference no. 98-190S-581) and ELOS No. ACE-98-2 as detailed in the FAA memo dated October 7, 1998 (FAA memo reference no. 98-190S-608).

Emergency exit requirements of FAR 23.807 in accordance with ELOS No. ACE-99-02 as detailed in FAA memo dated February 2, 1999 (FAA memo reference no. 99-190S-64).

Production Basis: Production Certificate No. 719NM, dated January 18, 2002.

NOTE 1: A current weight and balance report with a list of equipment included in the certificated empty weight must be provided for each aircraft at the time of original airworthiness certification.

NOTE 2: The placards specified in the latest FAA approved revision of "*Pilots Operating Handbook and FAA Approved Flight Manual*," Document No. RA050001, must be displayed.

NOTE 3: Major structural repairs must be accomplished at FAA certified repair stations rated for composite aircraft structure work, in accordance with FAA approved Lancair repair methods or other methods approved by the FAA.

NOTE 4: Exterior colors are limited to those specified in the latest FAA approved revision to Chapter 4 of "*Airplane Maintenance Manual*," Document No. RA050000.

NOTE 5: The airframe life limit may be extended beyond 12,000 flight hours when a non-destructive inspection process specifically approved by the FAA for this purpose is used.

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